[ABSTRACT]

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A blood pump actuator to generate a driving force for driving a blood pump is disclosed. The blood pump actuator includes: a motor unit having a stator and a rotor, and rotating to generate a rotating force; a cam unit to convert the rotating motion of the motor unit into a rectilinear reciprocating motion; and a bellows unit having a bellows, which is expandable and contractible and contains a fluid therein, and an upper bellows plate and a lower bellows plate respectively attached to the upper and lower ends of the bellows, wherein the lower bellows plate moves upwards and downwards in a vertical direction according to the rectilinear reciprocating motion of the cam unit engaging with the lower bellows plate, and the bellows repeatedly expands and contracts according to the vertical movement of the lower bellows plate.